## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: ISPH-0769

Inventors: Monia and Dobie

Serial No.: Not Yet Assigned

Filing Date: Herewith

Examiner: Not Yet Assigned

Group Art Unit: Not Yet Assigned

Title: Antisense Modulation of Histone

Deacetylase 2 Expression

"Express Mail" Label No. **EL977715255US**Date of Deposit <u>September 2, 2003</u>

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## INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §\$1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 C.F.R. §1.56(b).

- (XX) In accordance with §1.97(b), since this Information
  Disclosure Statement is being filed either within three
  months of the filing date of the above-identified
  application, within three months of the date of entry into
  the national stage of the above identified application as
  set forth in §1.491, or before the mailing date of a first
  Office Action on the merits of the above-identified
  application, no additional fee is required.
- ( ) In accordance with §1.97(c), this Information Disclosure Statement is being filed after the period set forth in §1.97(b) above but before the mailing date of either a Final Action under §1.113 or a Notice of Allowance under §1.311, therefore:
  - ( ) Certification in Accordance with §1.97(e) is set forth below; or
  - ( ) The fee of \$180.00 as set forth in \$1.17(p) is attached.
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- ( ) Copies of each of the references listed on the attached Form PTO-1449 (modified) are enclosed herewith.

(XX) In accordance with §1.98(d), copies of some or all of the references listed on the attached Form PTO-1449 (modified) are not enclosed herewith because they were previously submitted to the U.S. Patent and Trademark Office in prior application Serial No. 10/173,192, filed June 14, 2002 for which a claim for priority under 35 U.S.C. §120 has been made in the instant application.

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- ( ) The relevance of the listed references in a foreign language is as stated in the specification at pages @@.
- (XX) All listed references are in the English language.

Respectfully submitted,

Jane Massey Licata Registration No. 32,257

Date: September 2, 2003

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| Form PTO  | -1449 Modified  | Docket No.<br>ISPH-0769                    | Serial No.<br>not yet assigned |  |  |
|---|---|--|--------------------------------|--|--|
| List of Patents and Publications<br>Cited by Application<br>(Use several sheets if necessary) |   | Applicant<br>Brett P. Monia <i>et al</i> . |                                |  |  |
| U.S. Department of Commerce Patent and Trademark Office                                       |   | Filing Date<br>herewith                    | Group                          |  |  |
| OTHER DOCUMENTS   | OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)  |  |                                |  |  |
| AA  | Ayer, Histone deacetylases: transcriptional repression with SINers and NuRDs, Trends in Cell Biology, <b>1999</b> , 9:193-198   |  |                                |  |  |
| AB  | Ballas et al., Regulation of neuronal traits by a novel transcriptional complex, Neuron, 2001, 31:353-365   |  |                                |  |  |
| AC  | Betz et al., Human histone deacetylase 2, HDAC2 (Human RPD3), is localized to 6q21 by radiation hybrid mapping, Genomics, 1998, 52:245-246  |  |                                |  |  |
| AD  | DePinho, Transcriptional repression. The cancer-<br>chromatin connection, Nature, 1998, 391:533, 535-536  |  |                                |  |  |
| AE  | Gray et al., The human histone deacetylase family, Exp. Cell Res., 2001, 262:75-83  |  |                                |  |  |
| AF  | Gray et al., Expression of genes involved with cell cycle control, cell growth and chromatin modification are altered in hepatoblastomas, Int. J. Mol. Med., 2000, 6:161-169                    |  |                                |  |  |
| AG  | Grozinger et al., Three proteins define a class of human histone deacetylases related to yeast Hdalp, Proc. Natl. Acad. Sci. U. S. A., 1999, 96:4868-4873                                       |  |                                |  |  |
| АН  | Hassig et al., A role for histone deacetylase activity in HDAC1-mediated transcriptional repression, Proc. Natl. Acad. Sci. U. S. A., 1998, 95:3519-3524  |  |                                |  |  |
| AI  | Inouye et al., Relief of YY1-induced transcriptional repression by protein-protein interaction with the nucleolar phosphoprotein B23, J. Biol. Chem., 1994, 269:6506-6510                       |  |                                |  |  |
| AJ  | Ito et al., p65-activated histone acetyltransferase activity is repressed by glucocorticoids: mifepristone fails to recruit HDAC2 to the p65-HAT complex, J. Biol. Chem., 2001, 276:30208-30215 |  |                                |  |  |
| AK  | Kouzarides, Histone acetylases and deacetylases in cell proliferation, Curr. Opin. Genet. Devel., <b>1999</b> , 9:40-48   |  |                                |  |  |
| EXAMINER  |   | DATE CONSIDERED                            |                                |  |  |

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| Form PT                          | 0-1449 Modified   | Docket No.   | Serial No.           |  |  |  |
|----------------------------------|---|--|----------------------|--|--|--|
|                                  |   | ISPH-0769  | not yet assigned     |  |  |  |
| List of Patents and Publications |   | Applicant  |                      |  |  |  |
| Cited by Application             |   | Brett P. Monia et al.                                  |                      |  |  |  |
|                                  | sheets if necessary)  |  | _                    |  |  |  |
|                                  | t of Commerce Patent  | Filing Date  | Group                |  |  |  |
| and Trademark                    |   | herewith   |                      |  |  |  |
| OTHER DOCUMENT                   | S (Including Author, Ti   | tle, Date, Pertine                                     | nt Pages, Etc.)      |  |  |  |
| AL                               | Laherty et al., SAP30, a component of the mSin3   |  |                      |  |  |  |
|                                  | _   | corepressor complex involved in N-CoR-mediated         |                      |  |  |  |
|                                  | repression by spec  |  | n factors, Mol.      |  |  |  |
|                                  | Cell, <b>1998</b> , 2:33-42   | 2  |                      |  |  |  |
| AM                               | Murata et al., Apo  | Murata et al., Apoptotic cytotoxic effects of a        |                      |  |  |  |
|                                  | histone deacetylase   |  |                      |  |  |  |
|                                  | lymphoid cells, Jpn. J. Cancer Res., 2000, 91:1154-1160   |  |                      |  |  |  |
| AN                               |   |  | ylase HDAC3 targets  |  |  |  |
|                                  | RbAp48 to the retin   | noblastoma protei                                      | n, Nucleic Acids     |  |  |  |
|                                  | Res., 2001, 29:313  | 1-3136   |                      |  |  |  |
| AO                               | Randhawa et al.,  | Randhawa et al., Identification and mapping of human   |                      |  |  |  |
|                                  |   |  | omologues, Genomics, |  |  |  |
|                                  | 1998, 51:262-269  |  |                      |  |  |  |
| AP                               |   | Sasaki et al., Ligand-induced recruitment of a histone |                      |  |  |  |
|                                  |   | deacetylase in the negative-feedback regulation of the |                      |  |  |  |
|                                  | thurstropin beta g  | deacetylase in the negative-leedback regulation of the |                      |  |  |  |
| 120                              |   | thyrotropin beta gene, EMBO J., 1999, 18:5389-5398     |                      |  |  |  |
| AQ                               | Schmidt et al., Molecular association between ATR and   |  |                      |  |  |  |
|                                  | two components of the nucleosome remodeling and   |  |                      |  |  |  |
| ļ I                              | deacetylating complex, HDAC2 and CHD4, Biochemistry, 1999, 38:14711-14717                                 |  |                      |  |  |  |
| AR                               | Underhill et al., A novel nuclear receptor corepressor  |  |                      |  |  |  |
|                                  |   | complex, N-CoR, contains components of the mammalian   |                      |  |  |  |
|                                  | SWI/SNF complex and the corepressor KAP-1, J. Biol.   |  |                      |  |  |  |
|                                  | Chem., 2000, 275:40463-40470  |  |                      |  |  |  |
| AS                               |   |  |                      |  |  |  |
| AS                               | Wagner et al., Histone deacetylases in replicative senescence: evidence for a senescence-specific form of |  |                      |  |  |  |
|                                  | HDAC-2: FEBS Lett.  |  |                      |  |  |  |
|                                  |   |  |                      |  |  |  |
| AT                               | Yang et al., Trans  |  |                      |  |  |  |
|                                  | mediated by interaction with a mammalian homolog of the   |  |                      |  |  |  |
|                                  | yeast global regulator RPD3, Proc. Natl. Acad. Sci. U   |  |                      |  |  |  |
|                                  |   | S. A., 1996, 93:12845-12850                            |                      |  |  |  |
| AU                               | Yarden et al., BRCA1 interacts with components of the   |  |                      |  |  |  |
|                                  | histone deacetylase complex, Proc. Natl. Acad. Sci.   |  |                      |  |  |  |
|                                  | USA, <b>1999</b> , 96:4983  | -4988  |                      |  |  |  |
|                                  |   | DAME CONCEDED  |                      |  |  |  |
| EXAMINER                         |   | DATE CONSIDERED  |                      |  |  |  |

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| U.S. Department of Commerce Patent and Trademark Office                                       |   | Filing Date<br>herewith                    | Group                          |  |
| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)                        |   |  |                                |  |
| AV  | You et al., CoREST is an integral component of the CoREST- human histone deacetylase complex, Proc. Natl. Acad. Sci. U. S. A., 2001, 98:1454-1458     |  |                                |  |
| AW  | Zeng et al., Cloning and characterization of the mouse histone deacetylase-2 gene, J. Biol. Chem., 1998, 273:28921-28930                              |  |                                |  |
| AX  | Zhang et al., Histone deacetylases and SAP18, a novel polypeptide, are components of a human Sin3 complex, Cell, 1997, 89:357-364                     |  |                                |  |
| AY  | Zhang et al., SAP30, a novel protein conserved between human and yeast, is a component of a histone deacetylase complex, Mol. Cell, 1998, 1:1021-1031 |  |                                |  |
| EXAMINER  |   | DATE CONSIDERED                            |                                |  |

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| Form 1  | PTÖ-                        | 1449 Modified                      |  | Docket          | No.       | Seria    | l No.       |               |
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| Patent and  | Trad                        | emark Office                       |  | Herewi          | ewith     |          |             |               |
| U.S. PATENT DOCUMENTS   |                             |                                    |  |                 |           |          |             |               |
| Examiner's Initial  |                             | Document No.                       | Date   |                 | Name      |          | Class       | Subclass      |
|   | AA                          |                                    |  |                 |           |          |             |               |
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| FOREIGN PATENT DOCUMENTS  |                             |                                    |  |                 |           |          |             |               |
| Examiner's<br>Initial   |                             | Document No.                       | Date   |                 | Country   |          | Tran<br>YES | slation<br>NO |
|   | AO                          | WO 00/71703                        |  | 0/2000          | PCT       |          | Х           |               |
|   | AP                          | WO 01/42467                        | 6/14   | /2001           | PCT       |          | X           | <del> </del>  |
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